**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (original) A polymerizable composition comprising a polymerizable monomer component and a nanoparticle material, said polymerizable composition when at least partially cured having a refractive index of from 1.595 to 1.695.
2. (original) The polymerizable composition of claim 1 wherein said polymerizable monomer component is substantially aliphatic.
3. (original) The polymerizable composition of claim 1 wherein said nanoparticle material has an average particle size of from 5 to 100 nm.
4. (original) The polymerizable composition of claim 1 wherein said nanoparticle material has a refractive index of greater than 1.7.
5. (original) The polymerizable composition of claim 1 wherein said nanoparticle material has a refractive index greater than refractive index of said polymerizable monomer component.
6. (original) The polymerizable composition of claim 1 wherein said nanoparticle material is chosen from oxides, mixed oxides, alloys, metals, sulfides, carbides tellurides, selenides, nitrides and mixtures thereof.
7. (original) The polymerizable composition of claim 6 wherein said nanoparticle material is chosen from silicon, aluminum, indium, tungsten, cobalt, iridium, tin, zirconium, antimony, ruthenium, yttrium, titanium, tantalum, niobium, strontium, cadmium, lead, barium, magnesium, chromium, strontium titanate, and mixtures thereof.
8. (original) The polymerizable composition of claim 6 wherein said nanoparticle material is chosen from diamond and sulfur.

9. (original) The polymerizable composition of claim 1 wherein said nanoparticle material comprises a surface modifying chemical.

10. (original) The polymerizable composition of claim 9, wherein said modifying chemical comprises a functionalizing agent and a hydrophobizing agent.

11. (original) The polymerizable composition of claim 10, wherein said functionalizing agent can be chosen from materials having vinyl, epoxy, glycidoxy, (meth)acryloxy, sulfide, polysulfide, and mercapto reactive groups, and combinations thereof.

12. (original) The polymerizable composition of claim 10, wherein said functionalizing agent is chosen from mercaptoorganometallic compounds, bis(alkoxysilylalkyl)polysulfides, and mixtures thereof.

13. (original) The polymerizable composition of claim 10, wherein said hydrophobizing agent is chosen from non-sulfur organometallic compounds.

14. (original) The polymerizable composition of claim 1 wherein said nanoparticle material is present in an amount of from 0.5 percent by weight to no greater than 50% by weight, of the polymerizable composition.

15. (original) The polymerizable composition of claim 1 wherein said polymerizable monomer component is chosen from ethylenically unsaturated monomers, polyol(allyl carbonate) monomers, thiol monomers, polycyanate monomers, polycyanate prepolymers, polyepoxide prepolymers, and mixtures thereof.

16. (original) The polymerizable composition of claim 15 wherein said ethylenically unsaturated monomer is an aromatic monomer having at least two vinyl groups.

17. (original) The polymerizable composition of claim 15 wherein said thiol monomer is a polythiol monomer having at least two thiol groups.

18. (original) The polymerizable composition of claim 15 wherein said polycyanate prepolymer has a number average molecular weight of from 500 to 15,000.

19. (original) The polymerizable composition of claim 1 wherein said polymerizable monomer component comprises a reaction product of:

(a) a prepolymer comprising a polycyanate and at least one active hydrogen material; and

(b) an amine-containing curing agent.

20. (original) The polymerizable composition of claim 19, wherein said active hydrogen material is chosen from polyols, polythiols, materials having both hydroxyl and thiol groups, and mixtures thereof.

21. (original) The polymerizable composition of claim 20 wherein said polyol is chosen from polyether polyols, polyester polyols, polycaprolactone polyols, polycarbonate polyols, polyurethane polyols, and mixtures thereof.

22. (original) An at least partially cured polymerizate of the polymerizable composition of claim 1.

23. (original) The at least partially cured polymerizate of claim 22 having a density of no greater than 1.8 grams/$cm^3$.

24. (original) The at least partially cured polymerizate of claim 22 having an Abbe number of at least 25.

25. (original) An at least partially cured polymerizate of the polymerizable composition of claim 1, said at least partially cured polymerizate having at least 50% transparency in a range of wavelengths from 400 to 700 nanometers.

26. (original) A polymerizable composition, said polymerizable composition comprising nanoparticle material having a surface modification, said polymerizable composition when at least partially cured having a refractive index of from 1.595 to 1.695.

27. (original) A polymerizate comprising the polymerizable composition of claim 19.

28. (original) A polymerizate comprising the polymerizable composition of claim 20.

29. (original) A photochromic article comprising the polymerizable composition of claim 1 and a photochromic amount of organic photochromic substance.

30. (original) A photochromic article comprising the polymerizable composition of claim 19 and a photochromic amount of organic photochromic substance.

31. (original) A method of preparing a polymerizable composition comprising:

(a) obtaining a polyurethane prepolymer;

(b) reacting said prepolymer with an amine-containing curing agent; and

(c) adding nanoparticle material.

32. (original) A method of preparing an at least partially cured polymerizate comprising:

(a) obtaining a polyurethane prepolymer, reacting said prepolymer with an amine-containing curing agent, and adding nanoparticle material to produce a polymerizable composition; and

(b) polymerizing and at least partially curing said polymerizable composition to produce said at least partially cured polymerizate.

33. (original) The method of claim 32 wherein said at least partially cured polymerizate has a refractive index of from 1.595 to 1.695.

34. (original) The method of claim 33 wherein said at least partially cured polymerizate has an Abbe number of at least 25 and a density of no greater than 1.8 grams/$cm^3$.

35. (original) The method of claim 32 wherein said nanoparticle material comprises a surface modifying chemical.

36. (original) An optical article comprising a polymerizable composition which comprises nanoparticle material, said polymerizable composition when at least partially cured having a refractive index of from 1.595 to 1.695.

37. (original) An optical article comprising a polymerizable composition which comprises:

i. a prepolymer comprising an polycyanate and at least one active hydrogen material;

ii. an amine-containing curing agent; and

iii. a nanoparticle material.

38. (original) A photochromic article comprising a polymerizable composition which comprises nanoparticle material, said polymerizable composition when at least partially cured, having a refractive index of from 1.595 to 1.695.

39. (original) A photochromic article comprising a polymerizable composition which comprises:

i. a prepolymer comprising an polyisocyanate and at least one active hydrogen material;

ii. an amine-containing curing agent; and

iii. nanoparticle material.

40. (original) A polymerizable composition comprising a polymerizable monomer component and a nanoparticle material, said polymerizable composition when at least partially cured having a refractive index of from 1.595 to 1.695, and a density of no greater than 1.8 grams/$cm^3$.

41. (original) The polymerizable composition of claim 40 wherein said polymerizable monomer component is substantially aliphatic.

42. (original) The polymerizable composition of claim 40 wherein said nanoparticle material has an average particle size of from 5 to 100 nm.

43. (original) The polymerizable composition of claim 40 wherein said nanoparticle material has a refractive index of greater than 1.7.

44. (original) The polymerizable composition of claim 40 wherein said nanoparticle material has a refractive index greater than refractive index of said polymerizable monomer component.

45. (original) The polymerizable composition of claim 40 wherein said nanoparticle material is chosen from oxides, mixed oxides, alloys, metals, sulfides, carbides tellurides, selenides, nitrides and mixtures thereof.

46. (original) The polymerizable composition of claim 45 wherein said nanoparticle material is chosen from silicon, aluminum, indium, tungsten, cobalt, iridium, tin, zirconium, antimony, ruthenium, yttrium, titanium, tantalum, niobium, strontium, cadmium, lead, barium, magnesium, chromium, strontium titanate, and mixtures thereof.

47. (original) The polymerizable composition of claim 45 wherein said nanoparticle material is chosen from diamond and sulfur.

48. (original) The polymerizable composition of claim 40 wherein said nanoparticle material comprises a surface modifying chemical.

49. (original) The polymerizable composition of claim 48, wherein said modifying chemical comprises a functionalizing agent and a hydrophobizing agent.

50. (original) The polymerizable composition of claim 49, wherein said functionalizing agent has reactive groups chosen from vinyl, epoxy, glycidoxy, (meth)acryloxy, sulfide, polysulfide, mercapto, and mixtures thereof.

51. (original) The polymerizable composition of claim 49, wherein said functionalizing agent is chosen from mercaptoorganometallic compounds, bis(alkoxysilylalkyl)polysulfides, and mixtures thereof.

52. (original) he polymerizable composition of claim 49, wherein said hydrophobizing agent is chosen from non-sulfur organometallic compounds.

53. (original) The polymerizable composition of claim 40 wherein said nanoparticle material is present in an amount of from 0.5 percent by weight to no greater than 50% by weight, of the polymerizable composition.

54. (original) The polymerizable composition of claim 40 wherein said polymerizable monomer component is chosen from ethylenically unsaturated monomers, polyol(allyl carbonate) monomers, thiol monomers, polycyanate monomers, polycyanate prepolymers, polyepoxide prepolymers, and mixtures thereof.

55. (original) The polymerizable composition of claim 54 wherein said ethylenically unsaturated monomer is an aromatic monomer having at least two vinyl groups.

56. (original) The polymerizable composition of claim 54 wherein said thiol monomer is a polythiol monomer having at least two thiol groups.

57. (original) The polymerizable composition of claim 54 wherein said polycyanate prepolymer has a number average molecular weight of from 500 to 15,000.

58. (original) The polymerizable composition of claim 40 wherein said polymerizable monomer component comprises a reaction product of:

(a) a prepolymer comprising a polycyanate and at least one active hydrogen material; and

(b) an amine-containing curing agent.

59. (original) The polymerizable composition of claim 58, wherein said active hydrogen material is chosen from polyols, polythiols, materials having both hydroxyl and thiol groups, and mixtures thereof.

60. (original) The polymerizable composition of claim 59 wherein said polyol is chosen from polyether polyols, polyester polyols, polycaprolactone polyols, polycarbonate polyols, polyurethane polyols, and mixtures thereof.

61. (original) An at least partially cured polymerizate of the polymerizable composition of claim 40.

62. (original) The at least partially cured polymerizate of claim 61 having an Abbe number of at least 25.

63. (original) A photochromic article comprising the polymerizable composition of claim 40 and a photochromic amount of organic photochromic substance.

64. (original) An optical article comprising a polymerizable composition which comprises nanoparticle material, said polymerizable composition when at least partially cured having a refractive index of from 1.595 to 1.695.